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AIR COMBAT COMMAND

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Operations

DEVELOPMENT AND IMPLEMENTATION
OF DISTRIBUTED MISSION OPERATIONS

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This publication implements policy found in AFI 11-202, Vol 1, *Aircrew Training and* AFI 36-2251, *Management of Air Force Training Systems,* 5 June 2009, which now includes Distributed Mission Operations (DMO) program requirements. It prescribes the policies, procedures, and responsibilities associated with the development and implementation of command DMO programs. This publication applies to HQ ACC and its subordinate units, and to the Air National Guard when published in the ANGIND 2. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) AFMAN 33-363, *Management of Records*, and disposed of IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) located at **https://www.my.af.mil/afrims/afrims/afrims/rims.cfm**. We encourage users to make recommendations to improve guidance in this publication. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional's chain of command. Forward AF Form 847, **Recommendation to Change a Publication**, to HQ ACC/A3YA, 205 Dodd Blvd, Suite 101, Langley AFB VA 23665-2778 (E-mail address accdoya2 @langley.af.mil). See Attachment 1 for a glossary of references and supporting information

Chapter 1

INTRODUCTION, BACKGROUND AND COMPLIANCE

1.1. Introduction The Combat Air Forces (CAF) Distributed Mission Operations (DMO) readiness program emphasizes the virtual training domain and advocates that high fidelity flight and mission simulators are one of the foundations of an integrated training environment. The emphasis on the virtual domain is explicitly stated in the CAF DMO vision statement: "Provide the CAF a persistent virtual training environment to increase operational effectiveness by integrating DMO as a complement to live fly training." The Distributed Mission Training (DMT, expanded in 2006 to DMO) initiative implements Commander, Air Combat Command (COMACC) 1996 Operational Requirements Document guidance to the ACC Directors of Operations; Plans and Programs; Requirements; and Communications-Computers Systems to "implement linked, mission-level simulation training for the Combat Air Forces (CAF). End state is envisioned as high fidelity simulators at each wing for each Mission Design Series (MDS), linked to AWACS, JSTARS, RIVET JOINT, GTACS, C4ISR, and other simulators such as bomber and rescue MDS simulators as appropriate, as well as a dedicated set of adversary work stations that could present a manned threat. DMT will provide a realistic, full spectrum combat training system for combat-coded aircraft and aircrews." The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

1.1.1. **Background**. The intent of this instruction is to provide a common methodology and structure for advancing DMO while acknowledging unique MAJCOM requirements. While individual Wings/ Groups may implement their own mission-dependant approach, the growth of DMO requires some commonalities for maximizing CAF-wide virtual training capabilities. HQ USAF PAD 07-13, 25 Jan 08, Annex C- Operations, Plans, and Requirements, Appendix 2- Functional Delegation Breakout Operations, TAB 1-Distributed Mission Operations states Lead MAJCOMS- ACC (CAF), Establish policy for DMO training and exercise requirements.

1.2. **Compliance:** Per AFI 36-2251, *Management of Air Force Training Systems,* 5 June 2009, section 1.2.3: "Distributed Mission Operations (DMO) allows for routine unit level training activity by linking live, virtual, and constructive elements and training systems within and across weapon system platforms. DMO capabilities may be used to accomplish Major Weapon System (MWS) training table activity, specific mission rehearsal, and test and evaluation of tactics, techniques and procedures. DMO is also a readiness initiative to train warfighters as they expect to fight, maintain combat readiness at home or deployed, conduct mission rehearsals in an environment as operationally realistic as necessary, and provide support to operations." Compliance is mandatory for ACC units with Mission Training Center (MTC) and DMO capability.

Chapter 2

AUTHORITY AND RESPONSIBILITIES

2.1. MAJCOM -ACC will fund and acquire ancillary DMO services such as contracted instructors as necessary to meet ACC generated training requirements.

2.2. Lead Command (LC) – IAW HQ USAF PAD 07-13, Air Combat Command (ACC) is the lead command for CAF DMO. ACC will provide DMO capabilities as stated in the 1996 ACC DMT ORD and current ACC DMO Enabling Concept.

2.2.1. ACC/A3 is the command lead for Combat Air Forces (CAF) DMO operations and implementation. ACC/A3T is the chair of the ACC DMO/LVC O-6 Integrated Process Team which includes all A2/3/5/8 directorates with DMO equities.

2.2.2. ACC/A3 will sponsor the CAF DMO Users Conference annually as a minimum.

2.2.3. ACC/A3 will sponsor DMO Turkey Shoots or similar virtual competitions with a variety of DMO-capable players in various scenarios. ACC/A3T, A3D, A3I, and A3Y will assist with respective fighter/bomber, electronic attack (EA) and C2ISR asset scheduling and scenario development. These aerial competitions may combine a mix of active duty, ANG, AFRC, or contract support teams.

2.2.4. ACC/A3T and A8A are co-chairs of the CAF DMO Standards Development Working Group (SDWG) and the Standards Implementation Working Group (SIWG). Normally co-chaired by ACC and ASC/WNS four times per year, meeting locations will vary.   Additional telephone conferences will be scheduled as necessary. Primary POCs are A3T(O) and A8A(T) with assistance from A3Y and A3D as required.

2.2.5. ACC/A3T, A3Y, A3I, and A3D weapons system/MDS Functional Area Managers (FAMs) are responsible for determining and incorporating a mix of live, sim, and DMO requirements in annual Ready Aircrew Program (RAP) Tasking Message (RTM) for division-level approval.

2.2.6. As part of the SDWG, A3T and A8A will monitor DMO Test Plan Working Group and DMON Configuration Control Board programs.

2.2.7. ACC/A3J manages the Virtual Flag exercise program and is the ACC POC for requesting ACC virtual simulator participation in any joint or coalition event.   Detailed guidance for VF is contained in COMACC EXERCISE PLAN 88, revised 9 Oct 09: "VF is a COMACC-sponsored exercise designed to provide operational and tactical warfighters training in synthetic, theater-level, joint combat environments. The primary focus of VF is command and control spanning from the Combat Operations floor to the pilot/Joint Terminal Attack Controller in a realistic battlespace. VF is designed to prepare CAF personnel in the mission execution phase of composite force operations and OPLAN flyout, in a joint and coalition environment."

2.2.8. ACC TRSS manages selected simulator and Contract Aircrew Training/ Courseware Development (CAT/CWD) contracts that directly impact DMO.

2.2.9. ACC/A8 is the command lead for acquisition, management, and sustainment of CAF DMO capabilities. A8A is the DMO requirements execution division with the DMO Program

Element Monitor (PEM for PE 27701, Full Mission Combat Training) residing in A8AT. A8Z is the OPR for CAF DMO security matters.

2.2.10. User Commands (UCs)- PACAF, USAFE, ANG, AFRC

Chapter 3

WING/GROUP RESPONSIBILITIES

3.1. Incorporate DMO in unit training plans and develop processes for coordinating and scheduling DMO training events with other DMO participants. As DMO training continues to increase fulfilling Ready Aircrew Program (RAP) and other MAJCOM directed training requirements, units will merge their live fly/control and simulator/DMO schedules into a single consolidated operations schedule that supports and aligns with unit training plans.

3.2. Participate in DMO Users Conference events.

3.3. Ensure that all DMO-unique entry control and security standard operating procedures (e. g. foreign national participation, training event classification, etc.) are established and all operations and maintenance personnel are familiar with those procedures.

3.4. Per AFI 36-2251, the Weapons System Training Planning Team shall incorporate DMO training requirements into the prime mission system Initial Capabilities Document/Capabilities Development Document (ICD/CDD). Users will participate in their respective Weapon System Training Planning Team. DMO processes should also be documented as well in the Systems Training Plan.

3.5. Develop and update DMO training scenarios which are tactically sound and applicable to the DMO training domain. The process should take advantage of DMO flexibility to train those tasks/skill sets which are rarely trained in a live environment or in a standalone simulation scenario. Consideration should be given to mission rehearsal, deployment spin up, OPLAN validation.

3.6. Develop requirements for terrain, imagery or map databases applicable to training and forward them to their respective weapons system SDWG lead.

3.7. Coordination: A centralized office of responsibility can significantly enhance distributed training program initiatives. DMO-capable organizations should have a dedicated DMO section or office within the operations group or operations support squadron. As DMO continues to grow, developing and maintaining virtual training expertise becomes more challenging. To improve coordination and continuity, the DMO shop should include available elements of simulator scheduling, government oversight Quality Assurance Personnel, and applicable government civilian and contract instructor/operator representation.

3.8. Scheduling: Until a single source DMO scheduling application is fielded across the CAF or fully integrated into the Patriot Excalibur scheduling system, unit schedulers should maintain cognizance of the resources listed in Attachment 2, DMO Schedule Venues.

3.9. Reporting: Simulator utilization and concurrency impacts will be reported to USAF A3O-AT semi-annually per AFI 36-2251 (3 Jun 09) as stated in paragraph 3.1.1.9, 3.1.2.2, and Attachment 4 TRAINING SYSTEM METRICS.

WILLIAM J. REW, Lieutenant General, USAF
Vice Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTIVE INFORMATION

References

DoDD 1322.18, *Military Training*, 3 Sep *2004*

DoDD 5000.01, *The Defense Acquisition System*, 20 Nov 2007

CJCSI 3170.01F, *Joint Capabilities Integration and Development System*, 1 May 2007

CJCS Notice 3500.01, *2010-2013 Chairman's Joint Training Guidance*, 31 Aug 2009

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AFI 11-214, *Flying Operations*, 2 Jun 09

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AFI 10-601, *Capabilities-Based Requirements Development*, 31 Jul 2006

AFI 36-2251 *Management of Air Force Training Systems,* 5 June 2009

AFPD 10-6, *Capabilities-Based Planning & Requirements Development*, 31 May 2006

AFPD 10-9, *Lead Command Designation and Responsibilities for Weapon Systems*, 8 Mar 2007

AFPD 16-10, *Modeling and Simulation*, 10 Mar 06

AFPD 36-22, *Air Force Military Training*, 22 Mar 2004

USAF Distributed Mission Operations Implementation Plan, 15 Nov 04, HAF/XO

USAF Program Management Directive 6077(27), *Distributed Mission Operations (DMO),* 4 Sep 08, SAF/AQQ

HAF Program Action Directive 07-13, *Implementation of the Chief Of Staff of the Air Force Direction to Transform and Consolidate Headquarters Management Functions*, 25 Jan 08

COMACC EXPLAN (EXERCISE PLAN) 88, VIRTUAL FLAG, 1 Oct 09

ACC *Concept of Operations for Distributed Mission Training*, 13 Oct 98

ACC *DMT Operational Requirements Document* (ORD), 7 Nov 97

CAF DMO Enabling Concept, Approved by ACC/A3, 15 May 08

CAF LVC Enabling Concept, July 2009

ACC Ready Aircrew Program Tasking Messages (RTM), ACC/A3T/A3Y, various dates

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

ACC—Air Combat Command

ACCI—ACC Instruction

AETC—Air Education and Training Command

AFPD—Air Force Policy Directive

AFRC—Air Force Reserve Command

ANG—Air National Guard

CAF—Combat Air Forces

CAT/CWD—Contract Aircrew Training/Courseware Development

CCB—Configuration Control Board

CDD—Capabilities Development Document

CJCS—Chairman of the Joint Chiefs of Staff

DoD—Department of Defense

DoDD—Department of Defense Directive

DoDI—Department of Defense Instruction

DMO—Distributed Mission Operations

DMT—Distributed Mission Training

FAM—Functional Area Manager

HQ USAF—Headquarters US Air Force

ICD—Initial Capabilities Document

JCIDS—Joint Capabilities Integration and Development System

JTAC—Joint Terminal Attack Controller

LC—Lead Command

LVC—Live, Virtual, Constructive

MAJCOM—Major Command

MDS—Mission Design Series

MEC—Mission Essential Competencies

MTC—Mission Training Center

OPLAN—Operational Plan

OPR—Office of Primary Responsibility

PEM—Program Element Monitor

PEO—Program Executive Officer

PM—Program Manager

PMD—Program Management Directive

POM—Program Objective Memorandum

RAP—Ready Aircrew Program

RTM—RAP Tasking Message

SDWG—Standards Development Working Group

SIWG—Standards Implementation Working Group

STP—System Training Plan

TPT—Training Planning Team

UC—User Command

VF—VIRTUAL FLAG

Terms

Concurrency— The condition where the configuration and operation of the training systems matches configuration and function of the reference prime mission system(s).

Distributed Mission Operations (DMO)— Warfighter training that utilizes the integration (networking) of live-fly, virtual (man in the loop), and constructive (computer generated) entities, systems, and environments to complete mission essential competencies required for a combat ready force. DMO focuses on individual and small team unit-level training, utilizing a unit's organic resources to train assigned warfighters to perform their wartime tasks. It also expands a unit's training capabilities and resources to facilitate Inter-team training among geographically separated and composite force teams to execute missions (or significant portions of missions) and mission rehearsal scenarios.

Lead Command (LC)— The MAJCOM which is the primary operator of a system, subsystem, or item of equipment. This generally applies to those operational Commands or organizations designated by Headquarters US Air Force to conduct or participate in operations or operational testing (See AFPD 10-9). The Air Force assigns responsibility for overall management of each prime mission system to a LC. The LC contributes to the process of developing and maintaining a force structure with a balance of complementary capabilities, and it establishes a basis for rational allocation of scarce resources among competing requirements. In other words, the LC is responsible for advocating, programming and allocating funding for those systems assigned to it.

Long haul— A distributed training event conducted between Mission Training Centers using the Distributed Mission Operations Network. Coordination, instruction planning and execution takes place between two or more sites.

Mission Design Series (MDS)— System by which military aerospace vehicles are identified. See DoD 4120.15-L, Model Designation of Military Aerospace Vehicles, for a complete description of this identification system.

Mission Training Center (MTC)—A secure facility that houses virtual simulators to provide a DMO capability. Normally contains cockpits, mission consoles, or crew stations plus instructor operator stations (IOS), a network portal, and briefing/debriefing rooms.

Program Manager (PM)— The DoDD 5000.1 designated individual with responsibility for and authority to accomplish program objectives for development, production and sustainment to meet the user's operational needs. The PM has life-cycle responsibility for the prime mission system. PM duties include providing assessments of program status and risk to higher authorities and to the operator or operator's representative; actively managing within approved resources, program cost, performance, and schedule; and providing assessments of contractor performance. As used in this instruction applies collectively to System Program Manager and/or Product Group Manager.

Short haul— A non-distributed training event conducted within an MTC using a local area network. All coordination, instruction planning and execution takes place internally.

Simulator— A training device that permits development and practice of the necessary skills for accomplishing operational tasks, to a prescribed standard of competency, in a specific prime mission system and duty position.

System Training Plan (STP)— The STP is an iterative planning document that defines the justification, design, development, funding, resources, support, modification, operation, and management of a Training System. The STP is designed to provide for planning and implementation of training and to make sure all resources and supporting actions required for establishment and support are considered. The STP may be a stand-alone document, or it may be referenced and summarized in the Life Cycle Management Plan (LCMP) or Human Systems Integration (HSI) documents. All references to the STP in this document incorporate the possibility that the intended documentation may be part of an LCMP or HSI documents.

Training Planning Team (TPT)— An action group composed of representatives from all pertinent functional areas, disciplines, and interests involved in the life cycle design, development, acquisition, support, modification, funding, and management of a specific prime mission training system. The TPT uses the STP to ensure training considerations are adequately addressed in the prime mission system acquisition and modification processes.

Training Systems Requirements Analysis (TSRA)— The initial step in user requirements identification. It consists of mission/task analysis, training requirements identification, objectives/media analysis, and training systems basis analysis. A TSRA integrates the products of the Instructional System Development (ISD) process and the Systems Engineering (SE) process to describe the Training System to be procured. It serves as a required input to the System Training Plan. It is accomplished by the PM in coordination with the LC and UC.

Using Command (UC)— Any Command or organization that possess a prime weapon system and uses the products of the Training System. The Using Command is responsible for managing and conducting mission operations using the resources allocated by the Lead Command and Higher Headquarters. As such, the UC is responsible for defining the system requirements necessary to conduct and sustain operations. These requirements are submitted to the Lead Command for advocacy, programming and funding allocation. If only one MAJCOM or agency possesses the weapon system, that MAJCOM or agency is the designated lead command.

Reference AFPD 10-9 for further guidance on the delineation of responsibilities for Lead and Using Commands.

Attachment 2

DMO SCHEDULING VENUES

Figure A.2.1. DMO Scheduling Venues

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DMO Scheduling Venues

2.1.1   Virtual Event Scheduling Tool (VEST): Part of the ACC/A3Y managed Integrated Training Initiative that includes the semi-annual Integrated Training Conference, VEST is the online scheduling tool for live and virtual training opportunities larger than daily training but smaller than ACC Consolidated Planning Order events. For registered users, VEST lists live and virtual local exercises and training partner requests in an automated notification format. VEST User Registration website: https://iti1.acc.af.mil/WebApplication_Iti/Register/Register.aspx

2.1.2   DMO Operations and Integration (DMO O&I) Schedule: Northrop Grumman maintains the CAF DMO Network (DMON) website for certified sites contains information on CAF DMO Standards, the SDWG meeting forum, and the daily schedules for long haul (between Mission Training Center sites) training and test missions. Website: https://secure.dmodmt.com/

2.1.3   Distributed Training Operation Center (DTOC) schedule: Managed by the Air National Guard's 132nd Fighter Wing, Det. 1 in Des Moines, IA, DTOC provides daily individual and small team training in a wide variety of tailor-made scenarios. Approved Air Reserve Component Network (ARCNET) and DMON users may request missions at: https://www.airdmt.net/schedule.php

2.1.4   USAF Distributed Missions Operation Center (DMOC, 705 Combat Training Squadron, Kirtland AFB, NM) planning calendar includes information on all VFs, joint exercises and events (Fleet Synthetic Training-Joint, Emerald Warrior, Northern Edge, Weapons School Mission Integration, Missile Defense Agency, etc.) plus dedicated Warfighter Focus Events at https://wwwmil.dmoc.kirtland.af.mil/

2.1.5   VIRTUAL FLAG Exercise Schedule: Managed by ACC/A3JE, the VIRTUAL FLAG schedule is updated on an "as required" basis but no less than monthly, and distributed to all DMO POCs, OG/CCs and other interested parties. The current VIRTUAL FLAG schedule is posted to the DMOC webpage, the Consolidated Planning Schedule SIPR webpage , and the VIRTUAL FLAG Community of Practice at https://www.my.af.mil/afknprod/community/views/home.aspx?Filter=AC-OP-01-20

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